REMARKS

Claims 1-11, 23, 24, 33-38, and 42-89 are pending. Claims 1-11, 23, 24, and 33-38 are withdrawn from consideration and have been canceled. In an Action dated August 29, 2000, claims 73, 75, 77-79, 83, 85, 87, and 89 were objected as depending from a rejected claim, but indicated as reciting allowable subject matter. Claims 42-72, 74, 76, 80-82, 84, 86, and 88 were rejected. Claims 42, 45, 47, 50, 60, 65, 68, 70, 71, 80, and 81 have been cancelled, and claims 52, 43, 54, 57, and 58 were amended in a response after final, and those amendment are included here for clarity. The amendments to the specification from the response dated February 28, 2001, have not been repeated, and it is assumed that these have already been entered. Claims 43, 44, 46, 48, 49, 51-59, 61-64, 66, 67, 69, 72-79, and 82-89 remain in the case.

Claims 42, 47, 52-60, 65, 70, 71, 80 and 81 previously were rejected under the second paragraph of Section 112. Claims 42, 47, 60, 70, 71, 80, and 81 were cancelled, and claims 52, 54, 57, 58, and 59 were amended. Following further comments by applicants in a response dated April 16, 2001, the examiner accepted definition of SEPHACRYL S-200® in the claims as "gel filtration media with a fractionation range of 5,000-250,000 daltons for globular proteins" and CM-TRISACRYL-M® as "gel filtration media with a fractionation range of 200-2,500 daltons." The rejection under the second paragraph of Section 112 has been obviated.

In the current Advisory Action, a rejection of claims 43-46, 48-53, 61-67, 72, 74, 76, 82, 84, 86 and 88 under Section 102(b) based on Zeng *et al.* has been withdrawn. A rejection of claims 45, 48-50, 63 and 65-67 under 35 U.S.C. §102(b) over either of Glass and Fuchs (1985) or Glass and Fuchs (1988) has been maintained. As noted by the examiner, the protein disclosed in Glass and Fuchs has "98.5% identity over its entire length with SEQ ID NO:3 of the present invention, 97.0% identity with residues no. 2-135 of SEQ ID NO:4."* By the examiner's own admission therefore, Glass and Fuchs cannot possibly anticipate those claims which recite the sequence denoted by SEQ IDs 3 and 4. The examiner apparently agrees with this, since she no longer rejects claims 43 and 44. It appears that claims 48, 49, 66 and 67 erroneously are included in the rejections based on

* In fact, there are 9 residues which differ between SEQ ID NO:3 and the sequence for K7 in Glass and Fuchs -- the residues at positions 79, 83, 84, 97 155, 342, 398, 411 and 467 of SEQ ID NO: 3 differ from the residues in the Glass and Fuchs sequence, giving 98% identity, not 98.5% as alleged.

Glass and Fuchs. Claims 48 and 49 depend from allowed claims 43 (SEQ ID NO:3) and 44 (SEQ ID NO:4), respectively, and claims 66 and 67 depend from claims 48 and 49. Thus, claims 48, 49, 66 and 67 should be included with the allowed claims. Claims 45, 50 and 65, directed to embodiments with SEQ ID NO:5, have been canceled.

Applicants respectfully submit that all of the pending claims are now in condition for allowance. An early notice to this effect is earnestly solicited. If there are any questions regarding the application, the examiner is invited to contact the undersigned at the telephone number below.

Respectfully submitted,

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Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge Deposit Account No. 19-0741 for any such fees; and applicant(s) hereby petition for any needed extension of time.

MARKED-UP VERSION OF AMENDED CLAIMS

Please cancel claims 1-11, 23, 24, 33-38, 42, 45, 47, 50, 60, 63, 65, 68, 70, 71, 80, and 81, and amend the remaining claims as follows:

52. (Amended) The peptide or protein of claim [42] 43 obtained by a method comprising sequentially treating a tissue extract containing a lectin:

(a) with pepsin or at an acidic pH to remove a majority of contaminating proteins while retaining lectinic activity,

(b) by chromatography using SEPHACRYL S-200® [(agarose with acrylamide links)] (gel filtration media with a fractionation range of 5,000-250,000 daltons for globular proteins),

(c) by chromatography using [DEAE] diethylaminoethyl cellulose,

(d) by chromatography using CM-TRISACRYL-M® [(agarose with acrylamide links)] (gel filtration media with a fractionation range of 200-2,500 daltons),

(e) by affinity chromatography using N-acetylneuraminic acid as a ligand, and

(f) by reversed-phase [HPLC] high pressure liquid chromatography to separate the peptide or protein.

53. (Amended) The peptide or protein of claim 52, wherein 55 kd and 14 kd bands are recovered if the peptide or protein is subjected to [SDS-PAGE] sodium dodecyl sulfate polyacrylamide gel electrophoresis.

54. (Amended) A method for obtaining the peptide or protein of claim [42] 43 comprising sequentially treating a tissue extract containing a lectin:

(a) with pepsin or at an acidic pH to remove a majority of contaminating proteins while retaining lectinic activity,

(b) by chromatography using SEPHACRYL S-200® [(agarose with acrylamide links)] (gel filtration media with a fractionation range of 5,000-250,000 daltons for globular proteins),

(c) by chromatography using [DEAE] diethylaminoethyl cellulose,

(d) by chromatography using CM-TRISACRYL-M® [(agarose with acrylamide links)] (gel filtration media with a fractionation range of 200-2,500 daltons), and

(e) by affinity chromatography using N-acetylneuraminic acid as a ligand.

57. (Amended The method of claim 54, comprising, after (e), treating the extract by [HPLC] high pressure liquid chromatography.

58. (Amended) The method of claim 57, wherein the [HPLC] high pressure liquid chromatography is conducted using water/acetonitrile/trifluoroacetic acid.

59. (Amended) The method of claim 58, wherein 65 kd, 55 kd, and 14 kd bands are recovered if a fraction corresponding to the main peak obtained during the [HPLC] high pressure liquid chromatography is subjected to [SDS-PAGE] sodium dodecyl sulfate polyacrylamide gel electrophoresis.

76. (Amended) A therapeutic agent for stimulating the immune system comprising [the peptide of claim 45] an isolated peptide or protein having lectinic properties and comprising the amino acid sequence of SEQ ID NO:5.

82. (Amended) A therapeutic agent for stimulating the immune system comprising [the peptide of claim 48] an isolated peptide or protein, wherein the amino acid sequence of SEQ ID NO:3 comprises the amino acid sequence of the peptide or protein, wherein the peptide or protein has lectinic properties, and wherein the peptide or protein is recognized by an antibody specific to an isolated peptide or protein having lectinic properties and comprising the amino acid sequence of SEQ ID NO:3.

86. (Amended) A therapeutic agent for stimulating the immune system comprising [the peptide of claim 50] an isolated peptide or protein, wherein the amino acid sequence of SEQ ID NO:5 comprises the amino acid sequence of the peptide or protein, wherein the peptide or protein has lectinic properties, and wherein the peptide or protein is recognized by an antibody specific to an isolated peptide or protein having lectinic properties and comprising the amino acid sequence of SEQ ID NO:4.